ON AN EXAMPLE OF *ACANTHOTEUTHIS FERUSSACII*, Münst., FROM THE LITHOGRAPHIC STONE OF SOLENHOFEN, BAVARIA, EXHIBITING THE BUCCAL MEMBRANE.

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Read 14*th January*, 1898.

PLATE IV.

"The genus *Acanthoteuthis* was founded by R. Wagner and G. Münster upon small hooklets, sometimes isolated, sometimes associated with more or less complete remains of the animal, which are found in the Lithographic Stone of Bavaria. Münster characterized three species chiefly upon the form of these hooklets, viz., *A. speciosa*, *A. Férussacii*, and *A. Lichtensteinii*, and noticed the existence of a fourth. Subsequently Münster referred to this genus also a number of forms based principally upon the shape of the body and upon the form of the internal shell, but most of these were afterwards separated by A. Wagner as a new genus (*Plesioteuthis*). The genus *Acanthoteuthis* is therefore restricted to such forms as Münster described chiefly upon the form of the hooks."[1]

According to Münster's description of the three above-mentioned species, the hooklets in *A. speciosa* are compressed and both the margins on one side bevelled; in *A. Ferussacii* they are also compressed, but are smaller and the edge of the concave margin only is bevelled; whilst in *A. Lichtensteinii* they are both smaller than in *A. speciosa*, and more nearly circular in transverse section. D'Orbigny united these three species under the name *A. Ferussacii*; whilst Dr. A. Wagner regarded *A. speciosa* as a valid species, but seeing no essential difference between Münster's *A. Ferussacii* and *A. Lichtensteinii*, united these under the former name.

A. speciosa appears to be specifically distinct from *A. Ferussacii*, but we have not been able to examine sufficient material to enable us to express any opinion about the identity of *A. Ferussacii* and *A. Lichtensteinii*.

The specimen referred to in the present communication forms part of the British Museum Collection (No. 39,881), and is exhibited on the counterparts of a small split slab of Lithographic Stone (Upper Oolite) from Solenhofen, Bavaria. It is labelled "*Acanthoteuthis Ferussacii*, Münst.," and since the hooklets of the arms certainly have the form of those ascribed to that species, we adopt this name for the specimen. In Münster's type the arms were attached to a roughly-shaped elongated mass representing the head and body, the former

[1] G. C. Crick, Geol. Mag., 1897, p. 1.

being about two-thirds of the length of the arms, the latter being about four times the length of the head. In the present specimen eight arms can be seen (marked *a* to *h* in the figures, Pl. IV); each of these is furnished with a double row of hooklets, which are largest at about the mid-length of each arm. The arms can be grouped in pairs according to their size, although their exact order cannot be definitely ascertained. The pairs seem to be as follows: *a* & *h*, *b* & *g*, *c* & *f*, *d* & *g*; and so far as can be made out from this example, the arms appear to have been arranged in the order of the lettering. Each of the arms *a*, *h* is about 38 mm. long and 5 mm. wide, and furnished with two rows of hooklets, about nine or ten in each row. The pair *b*, *g* appears to have been the largest, nearly 85 mm. long and about 10 mm. wide, thickest at the proximal end, slowly tapering towards the distal

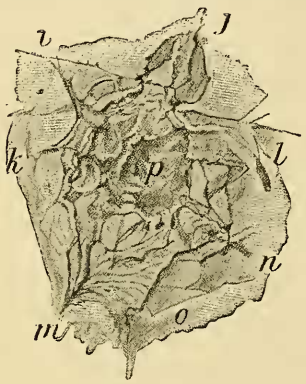

Fig. I.

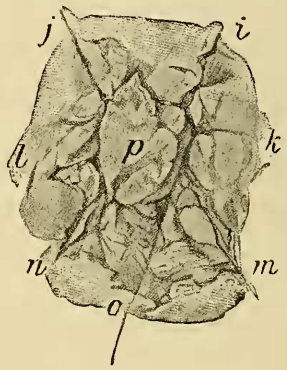

Fig. II.

Enlarged views of the central portions of the figures on Plate IV. The lettering is the same for all the figures.

extremity, and furnished with two rows of hooklets, of which there were probably fourteen or fifteen in each row. The pair *c*, *f* is rather short and broad, about 32 mm. long and 6 mm. wide, rather obtuse at the distal end, and somewhat thickly studded with hooklets, there being two rows of nine or ten hooklets in each. The pair *d*, *e* is about 55 mm. long, and 6 mm. in greatest thickness, which is at about the mid-length of the arm; each tapers gradually towards the distal extremity, and is provided with two rows of about twelve or thirteen hooklets apiece.

At the base of the arms the buccal membrane is well displayed. It is stellate in form, with six fairly prominent narrow radiating elevations (Pl. IV, Fig. 1), the central portion (*p*) being occupied by a mass of calcite which extends for a short distance into each radial elevation. These radial elevations are evidently the remains of the ligaments, by means of which the membrane was attached to the bases of the arms; they are unequal in size, the two which are directed backwards (on the slab), *m* & *n*, being the largest, the two lateral ones,

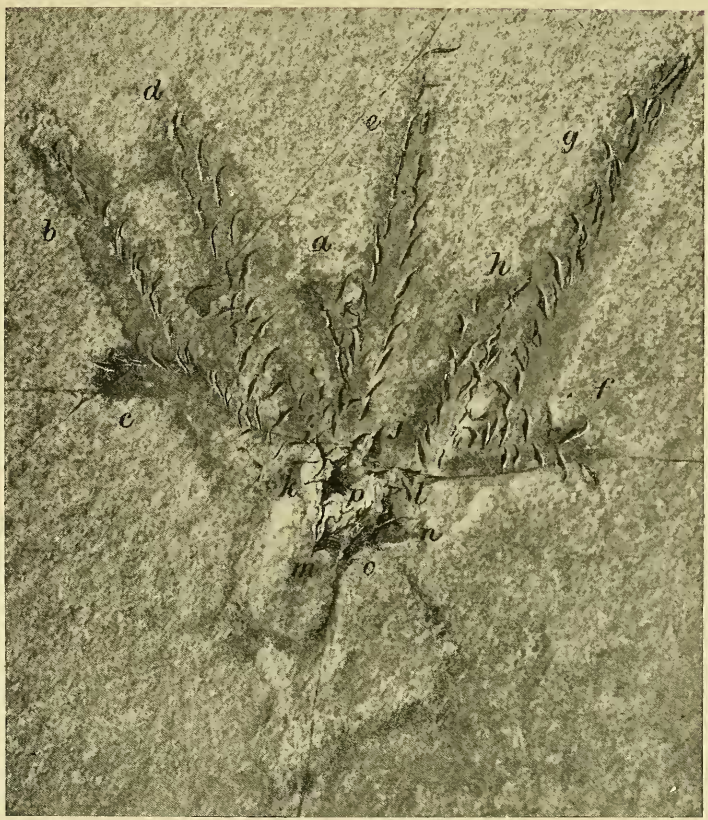

FIG. 1.

FIG. 2.

Acanthoteuthis Ferussacii, Münst.